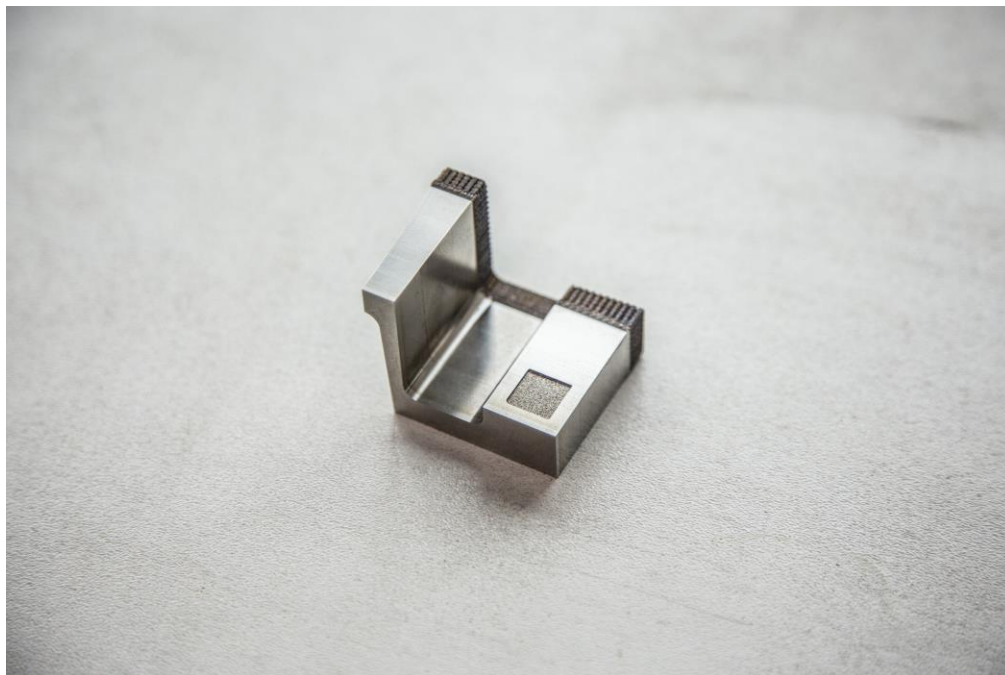


Innovation from OGM eliminates gas traps in injection mould tools

Our new innovation, using the latest [hybrid metal additive manufacturing technology](#), will help to eliminate the problems caused by gas traps in injection mould tools.

Gas traps are a common problem in [injection moulding](#), leading to scorching, pinholes and poor finished part quality. They are caused by gas pockets forming as the 'melt fronts' of the molten plastic, which is injected under pressure into injection mould tool cavities, come together before the gas has escaped naturally through the split lines of the tool; this traps the gas within the plastic.



Best practice in part design, tool design and the use of mould flow simulation alleviate the risks of gas traps, but they can still occur. The proactive solution, where exact location of a trap is unknown, is typically to fabricate the tool with inserts made from specialised porous materials in the critical areas, or retrospectively to add vent pins (fixed ejector pins) to the exact site of the problem. Neither of these options, however, is ideal, principally on the grounds of cost and time.

The solution uses our latest [hybrid metal additive manufacturing technology](#). This has been adopted to produce a wide range of mould tool inserts, quickly and at competitive cost. Using newly developed techniques, we are able to build inserts layer by layer that incorporate large numbers of micro-pores, each just a few microns in diameter, through which gas can escape, without adversely affecting the quality of the finished part.

The inserts are 3D laser sintered in steel or other metals, to match the exact requirements of each injection mould tool. The dimensions and characteristics of the gas escape channels are optimised to reduce cycle times and boost productivity, while maintaining high levels of part quality, even for extremely complex designs.

Marcel Gowers, our Additive Manufacturing Applications Engineering Manager, explains that, “The process we’ve developed exploits the potential of 3D laser sintering, to create precise and carefully controlled vent channels through carefully selected areas of the injection mould tool. OGM’s porous inserts can be manufactured into any 3D shape, both quickly and efficiently, enabling us to reduce lead-times to a minimum; just as importantly, we can help customers eliminate the problems caused by gas traps while maintaining moulded part quality and productivity.”

Why not [speak with one of our industry experts](#) today to see how we can help you.

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About OGM

OGM was established in 1962 and B E Wightman grew the business over the next 40 years through a dedication to high-quality in the products and the service we provide our customers and a commitment to fairness. Today, these values remain at the heart of everything we do. We offer total manufacturing solutions for precision injection moulding, from design consultancy and prototype tooling through to high-volume world-class production. Our customers include international blue-chip organisations, from across a range of sectors, including industrial, electronics, utilities and medical.

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